



Forest Insect & Disease Management

Survey Report

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JACK PINE BUDWORM DEFOLIATION MANISTEE NATIONAL FOREST, MICHIGAN, 1975

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INTRODUCTION

Jack pine budworm, Choristoneura pinus Free., tends to increase to outbreak proportions every 5-10 years. Repeated defoliation causes tree mortality, top-kill and reduced tree growth. A population buildup was first detected on the Manistee National Forest in 1974. An aerial survey was needed to determine the severity and extent of the outbreak in 1975.

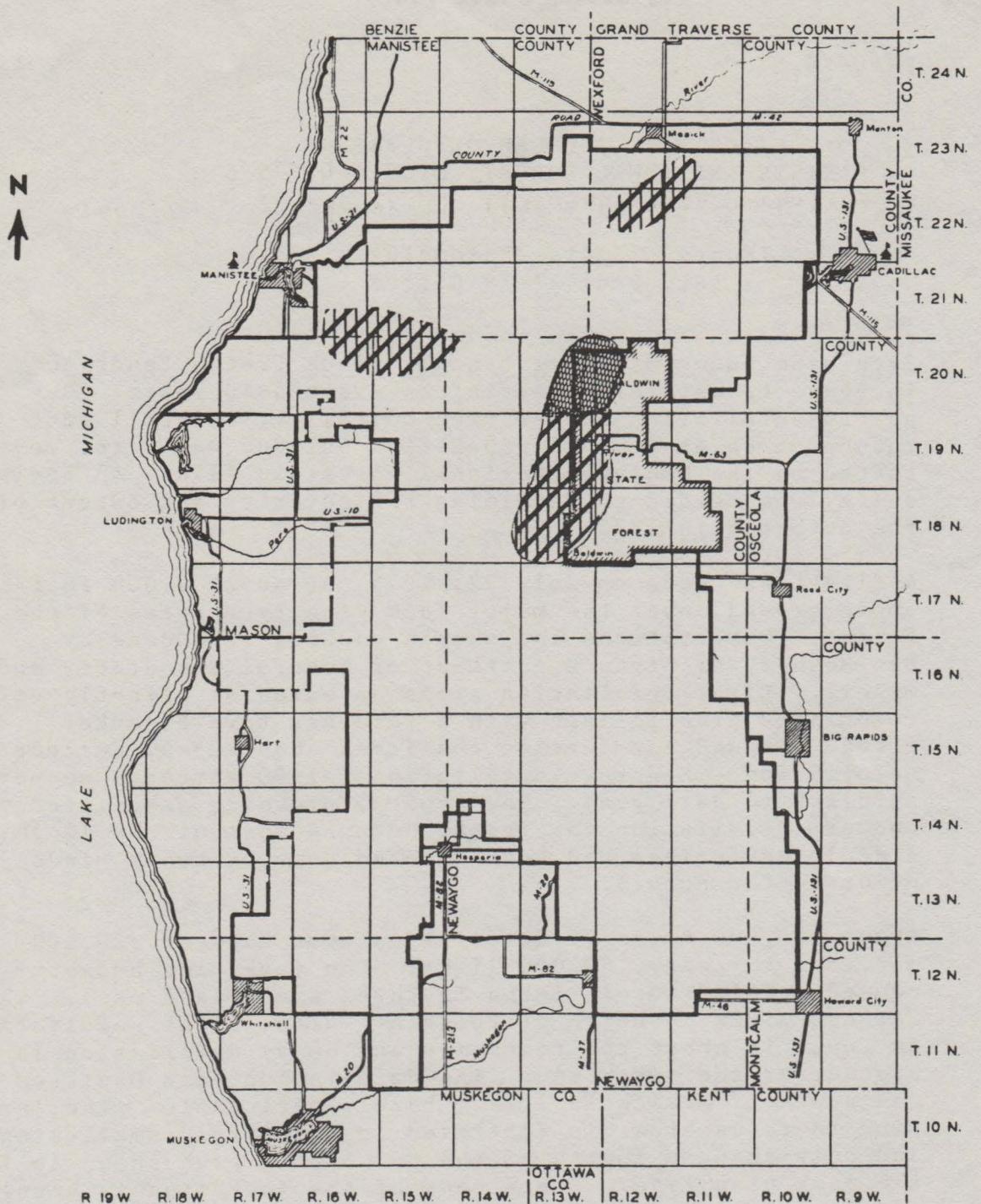
METHOD

A flight was made on July 22, 1975, at about 2,000 feet above ground, over the major jack pine type areas of the Forest. Observations and sketch-mapping were done by Dan Mosher, Michigan Department of Natural Resources, and myself. Light defoliation areas appeared as slightly off-color jack pine foliage with a tendency toward darker green. Ground examination confirmed about 25-50 percent defoliation. Moderate defoliation (51-90 percent) appeared purplish to dark gray. The typical browning associated with budworm defoliation was absent because most of the loose, discolored foliage had been knocked down by heavy winds prior to the survey.

RESULTS AND DISCUSSION

About 100,000 acres of defoliation were mapped: 20,000 moderate to heavy, 80,000 light. The jack pine budworm-caused defoliation is found in three areas (see map). The largest block is north of Baldwin. Here, light defoliation is found in about two townships and heavy defoliation in another at the north end. The defoliation near Manistee and south of Mesick is light, barely noticeable. The jack pine in these areas is scattered in relatively small stands and only about a fourth of the defoliated area shown is in the jack pine type. Since most of the jack pine is young and vigorous, extensive tree mortality is not expected if the present outbreak does not persist longer than 1977. Some top-killing may occur in the heavier defoliated stands north of Baldwin. Growth reduction in the latter area can be expected for the next 2-5 years. Most of the lightly defoliated stands can expect defoliation next year. Defoliation should decline in the heavily defoliated stands.

MANISTEE NATIONAL FOREST



Moderate to heavy Light

Scale: $\frac{1}{2}$ in/6 mi.

Jack pine budworm-caused defoliation in 1975